

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

| | | |
|--------------|---|---|
| TYPE: | PIPISTREL VIRUS SW 127 BCAR-S | |
| (1) | MANUFACTURER | Pipistrel d.o.o., Goriška cesta 50a, SI-5270, Ajdovščina, Slovenia. |
| (2) | UK IMPORTER | Fly About Aviation Ltd., |
| (3) | CERTIFICATION | EASA CS-LSA Amendment 1 |
| (4) | DEFINITION OF BASIC STANDARD | Pipistrel Master Drawing List DWG-121-02-40-001_C02 |
| (5) | COMPLIANCE WITH THE MICROLIGHT DEFINITION | |
| (a) | MTOW | 600 kg |
| (b) | Number of seats | 2 |
| (c) | Maximum Wing Loading | 63 kg/m ² |
| (d) | Stall speed, V _{so} | 45 kt CAS |
| (e) | Permitted range of occupant weights | 0 - 110 kg (each) (min cockpit load 55 kg, max 200 kg) |
| (f) | Typical Empty Weight (ZFW) | 349 kg |
| (g) | ZFW + 172kg crew + 1hr fuel (Rotax 912ULS-01 8kg/hr) | 539 kg |
| (h) | ZFW + 86kg pilot + full fuel (100 litres/72kg) | 507 kg |
| (i) | Max ZFW at initial permit issue | 382 kg |

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

(6) POWER PLANTS

| | |
|-----------------------------|--|
| Designation | Rotax 912 ULS 3 |
| Engine Type | 4 cylinder 4 stroke horizontally opposed |
| Reduction Gear | 2.43:1 |
| Exhaust System | Steel collector box with flexible joints |
| Intake System | Rotax / Bing standard CD carburettors, K&N filters |
| Propeller Type | MTV-33-1-A/170-200 2 blade constant speed |
| Propeller Dia x Pitch | 1700 mm Dia x Variable Pitch |
| Noise Type Cert No. | N/A |
| AAN approving configuration | AAN-BMAA-1125 |

(7) MANDATORY LIMITATIONS

- (a) Maximum Take-off Weight (MTOW) 600 kg

- (b) CG Limits Aft limit 356 mm AoD
 Forward limit 267 mm AoD

- (c) CG Datum wing leading edge at root

- (d) Cockpit Loadings min cockpit load 55 kg
 max cockpit load 200 kg
 max occupant weight 110 kg (each)

- (e) Never exceed speed, V_{NE} 163 kt IAS

- (f) Flap limiting speed, V_{FE} V_{FE2} 65 kt IAS V_{FE1} 81 kt IAS V_{FE0} 135 Kt IAS

- (g) Manoeuvring speed, V_A 100 kt IAS

- (h) Maximum speed with airbrakes extended V_{AE} 100 kt IAS

- (i) Permitted manoeuvres Maximum bank angle 60°
 Non Aerobatic
 Normal acceleration limits, +4g / -2g

- (j) Fuel Contents 100 litres (98 litres max usable)

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

(k) Power plant

| | |
|-------------------|---|
| Engine | Rotax 912ULS 3 |
| Max RPM | 5800 (5 min) 5500 (continuous) |
| Max Coolant Temp. | 120°C |
| Max EGT | 880°C |
| Fuel spec | 90 RON minimum unleaded to EN 228 Normal, Super or Super Plus, AVGAS 100LL, UL91. (Unleaded preferred – see engine manual) |
| Engine oil spec | RON 424, SAE 10W-40 (See engine manual) |
| Oil pressure | Normal 2-5 bar above 3500rpm Min 0.8 bar below 3500rpm Max 7 bar |
| Oil temperature | 50 - 130°C |
| Fuel pressure | 0.15 - 0.5bar |

(8) INSTRUMENTS REQUIRED

| ASI | Altimeter | Slip ball | RPM | Coolant Temp. | Oil Temp. | Oil Pressure | Fuel Gauge | Manifold Pressure Gauge |
|-------------------|-----------|-----------|--------------------|---------------|-----------|--------------|-------------------|-------------------------|
| 0- 170 kt minimum | Required | Required | 0-5800 rpm minimum | Required | Required | Required | Required Per Tank | Required |

Carbon Monoxide Detector required if Cabin Heater fitted. (Audible type recommended)
A compass is recommended.

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

(9) CONTROL DEFLECTIONS

| | | | | | |
|-------------------|-----------|-----------|------------|-----------|----------|
| Elevator | UP: | 25°±2° | Flaperons* | MAX UP: | 13°±1.5° |
| Elevator | DOWN: | 15° ±1.5° | Flaperons* | MAX DOWN: | 11°±1.5° |
| Flaperon (0 flap) | UP: | 13° ±1° | Rudder | LEFT: | 25°±1° |
| Flaperon (0 flap) | DOWN: | 10° ±1° | Rudder | RIGHT: | 25°±1° |
| Flap -1 | NEGATIVE: | -5°±1° | | | |
| Flap 0 | | 0° | | | |
| Flap 1 | +1 | 9.5°±1° | | | |
| Flap 2 | DOWN: | 20°±1.5° | | | |

* See Pipistrel Weight and Balance Report for details of varying flaperon limits with aileron/flap interaction.

(10) PILOT'S NOTES, MAINTENANCE MANUALS, REFERENCES

10.1 Manuals approved for use with this aircraft

- (a) VSW 127 BCAR-S Pilot's Operating Handbook POH-127-00-40-001_A00 or latest approved revision.
- (b) Virus SW BCAR-S Aircraft Maintenance Manual AMM-127-00-60-050_A00 or latest approved revision.
- (c) Engine, propeller and other fitted equipment manufacturer's Operating and Maintenance Manuals as appropriate to fitted powerplant and equipment, at their current issues.

10.2 The following placards are to be fitted:

- (a) Flight Limitations Placard (to be visible to the pilot)
See Annex D.
- (b) Engine Limitations Placard (to be located near to the engine instruments)
See Annex D.
- (c) Fuel Limitations Placard (to be located near to fuel gauge)
See Annex D.
- (d) Fuel/Cockpit Load Trade-off Placard (to be visible to the pilot)
See Annex D
- (e) ASI Markings
See Annex D.

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

(f) Switches
See Annex D.

(11) MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC.

See Annex A.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 1040 fpm at 78 kt IAS (76 kt KCAS)

Stall or Minimum Flying Speed: 47 kt IAS (45 kt CAS) at MTOW/idle/landing configuration.

Issue Reason and Signatory

1 19 April 2023 Initial issue.

Approved for issue by R. Patrick BMAA Chief Technical Officer

Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

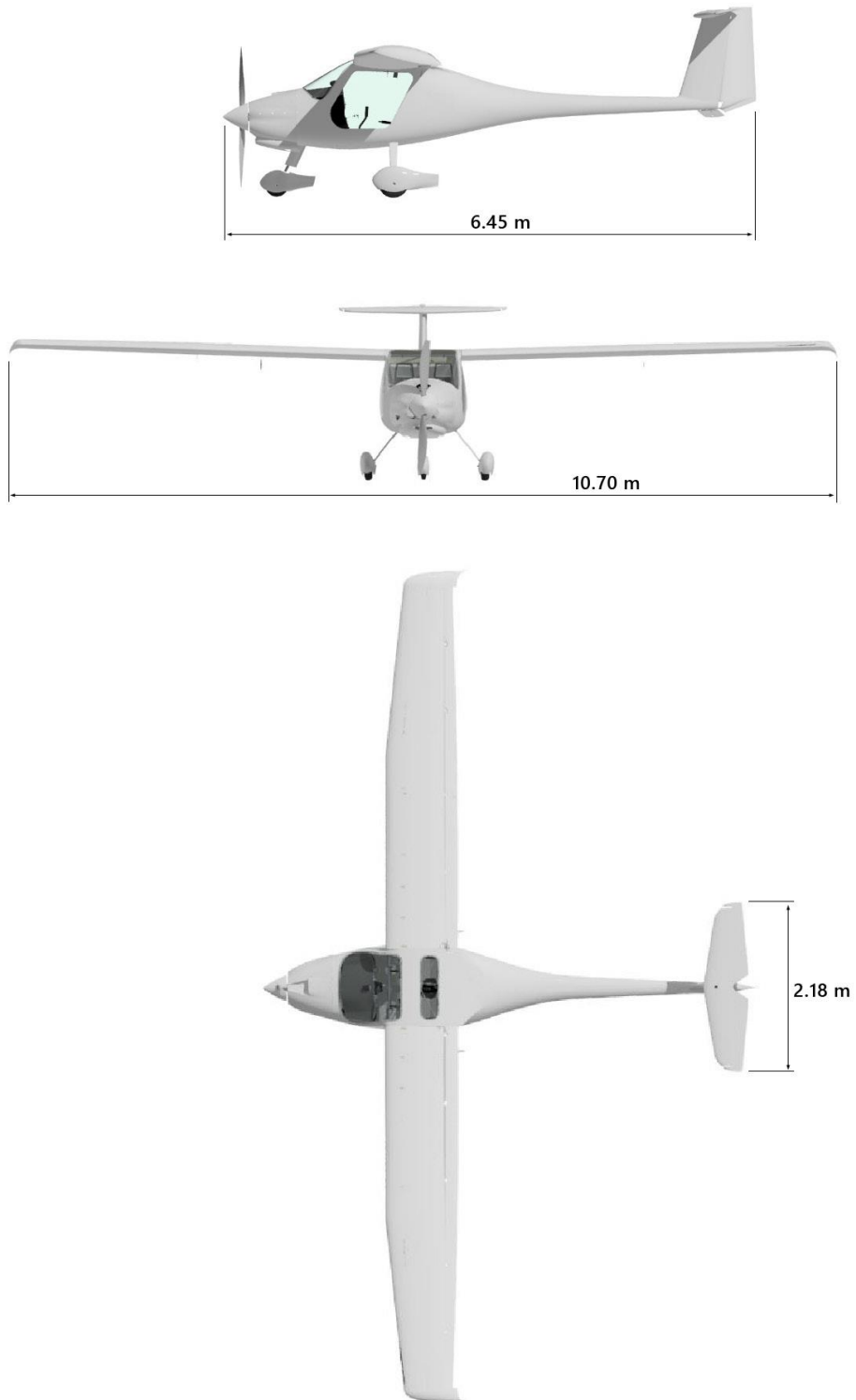
MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

Illustration Of Aircraft – 3 View



MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

ANNEX A - MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC.

Nil.

ANNEX B - APPROVED OPTIONAL MODIFICATIONS

The installation of all optional modifications is to be inspected by an inspector from an Organisation approved by the CAA for the purpose and an entry made in the appropriate logbook(s). Note that other approved modifications may exist which are not mentioned here.

| Modification No. | Description: |
|------------------|---|
| 1 | 2 nd Dynon Display |
| 2 | BPRS Optional (standard) |
| 3 | AVEO Strobe/navigation/anticollision lights |
| 4 | ELT |
| 5 | Leather Seats |
| 6 | Dynon Autopilot |

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

ANNEX C - WEIGHING INFORMATION

| | |
|------------------------|--|
| CG Datum: | wing leading edge at root |
| Weighing attitude: | Fuselage axis horizontal, see Aircraft Maintenance Manual for levelling procedures |
| Main wheel moment arm: | 480±10 mm aft of datum, typical |
| Nose wheel moment arm: | (-) 1020±10 mm forward of datum, typical |
| Fuel moment arm: | 215 mm aft of datum (100 litres nominal capacity, 72kg) |
| Crew moment arm: | 370 mm aft of datum |
| Baggage moment arm: | 1160 mm aft of datum |
| Crew weights: | 0 - 110 kg (each) (min cockpit load 55 kg, max 200kg) |
| Max baggage weight: | 25 kg |
| Aft CG Limit: | 356 mm aft of datum |
| Forward CG Limit: | 267 mm aft of datum |

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84
ANNEX D - EXAMPLE PLACARDS

(a) Flight Limitations Placard (to be visible to pilot)

OPERATING SPEEDS 1113039

| | | | | | |
|-----------------|-----|------|-----------------|-----|------|
| V _{SO} | 47 | KIAS | V _{NE} | 163 | KTAS |
| V _S | 53 | KIAS | | | |
| V _A | 100 | KIAS | | | |
| V _{NO} | 120 | KIAS | | | |

| | | | | |
|-----------------|-----|------|-------|-------|
| ALT | SL | FL60 | FL120 | FL180 |
| V _{NE} | 163 | 149 | 136 | 123 |

MAX EXTENSION SPEED FLAPS 1111923

| | | | |
|-------------------|----|-----------------|------|
| V _{FE+2} | +2 | 65 | KIAS |
| V _{FE+1} | +1 | 81 | KIAS |
| V _{FE0} | 0 | 135 | KIAS |
| V _{FE-} | - | V _{NE} | |

1113237

| | | |
|---------------|---------------------------|----|
| ACTUAL EAW | | kg |
| MTOW | 600 | kg |
| COCKPIT LOAD | min. 55 kg max. 200 kg | |
| MAX SEAT LOAD | 110 | kg |

(b) Engine Limitations Placard (to be located near to the engine instruments)

1113235

| | | |
|----------|--------|--------------|
| MCP/MTOP | RPM | 5500/5800 |
| MIN/MAX | OIL P | 0.8/7 bar |
| MIN/MAX | OIL T | 50/130 °C |
| MAX | EGT | 880 °C |
| MAX | CT | 120 °C |
| MIN/MAX | FUEL P | 0.15/0.5 bar |

Instruments are individually colour marked accordingly

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

- (c) Fuel Limitations Placard (to be located near to fuel contents gauge)

Example, depending upon aircraft equipment.

| PAYLOAD (crew+baggage) | MAX FUEL [L] |
|----------------------------------|------------------------|
| 225 kg | 19.4 |
| 210 kg | 40.3 |
| 190 kg | 68.0 |
| 170 kg | 95.8 |
| 167 kg or less | 100 L (full) |

Full fuel is 100 L or 72 kg
See POH for fuel specifications

1113236

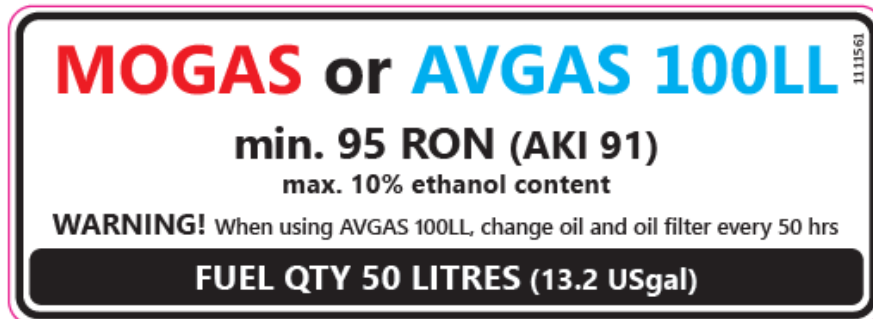
MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

- (d) Fuel Limitations Placard (to be located near to fuel tank fillers)



Next to fuel level indicators:



MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

(e) ASI Markings

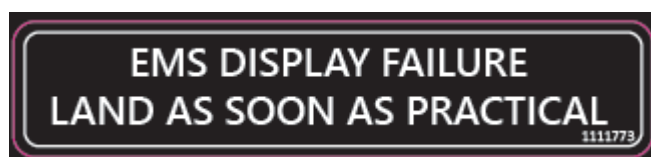
The ASI must be marked with the main IAS limiting speeds as follows:

- V_{SO} to V_{FE} - white arc
- V_{FE} to V_{NO} - green arc
- V_{NO} to V_{NE} - yellow arc
- At V_{NE} - red radial line

(f) Switches

All fuses and circuit breakers are to be marked with function and rating.

(g) Miscellaneous



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84



Fireproof metal plate showing the aircraft registration to be mounted in a prominent position.

Parachute recovery system release control and exterior of the aircraft (adjacent to the rocket/parachute exit point) must be placarded as per the aircraft manual.

On/adjacent to parachute rescue system hatch and visible external areas:



Next to doors (2x):



On the stored energy device (BPRS container):



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

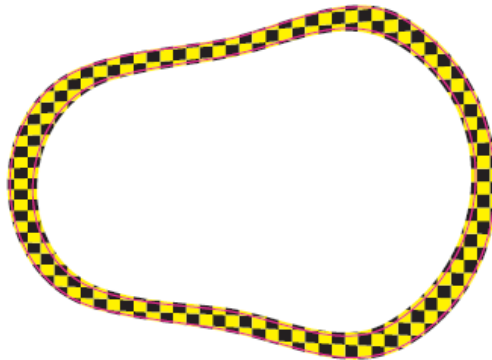
Next to rocket exhaust (bottom of fuselage):



Next to activation handle (cockpit):



Around BPRS egress area (top/rear fuselage):



The additional limitations, warnings, and secondary controls and switches are to be placarded as per the aircraft manual or normal practice otherwise.

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

Next to propeller lever:



Next to choke and throttle levers:



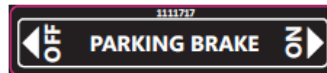
On flap lever (2x):



Next to cabin-air control lever:



Next to parking brake lever:



Next to microphone and headphone jacks:



In front of control sticks (rudder pedal adjustment, 2x):



Below each door to depict door handle operation:

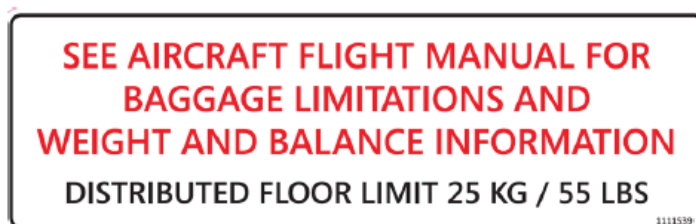


MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84
On inside of luggage compartment door:



On inside and outside luggage compartment lock (2x):



Next to main landing gear wheel tire (2x):



Next to nose landing gear wheel tire:



On each main landing gear wheel fairing (2x):



Around each static port (2x):



Next to each fuel system water trap (2x):



MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-97 ISSUE: 1



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

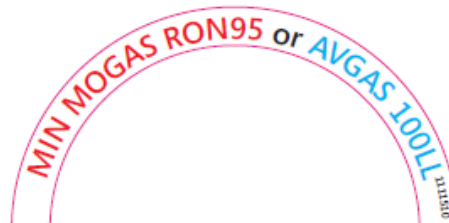
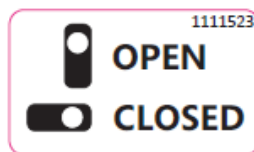
On coolant bottle, oil bottle:



Next to door opening latches:



Next to fuel drain on lower engine cowling:



Under the engine cowling, next to the oil system breather tube:

